

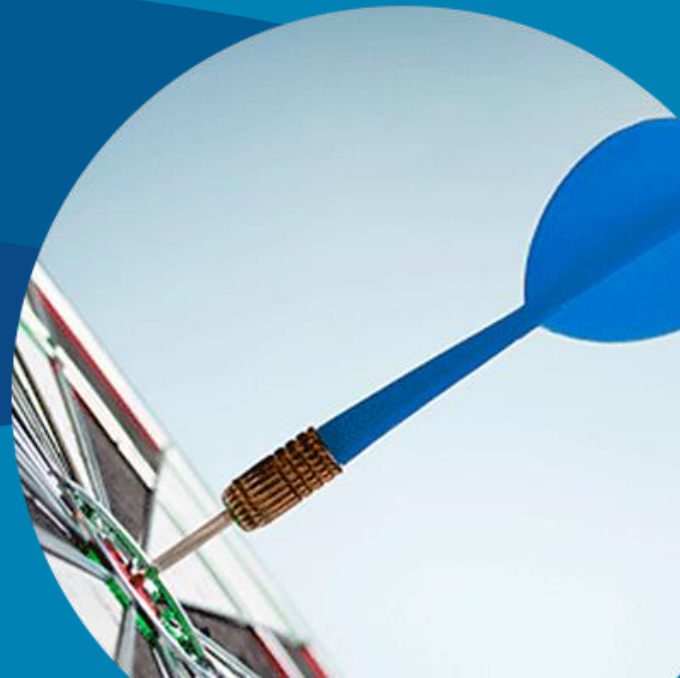
Utah Retirement Systems

Retirement and Independent Entities Interim Committee

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September 7, 2017



Agenda

- Overview of URS Plan Design
- Plan Demographics
- Actuarial Assumptions
- URS Financial Condition
- Comparison of URS Financial Metrics to Other Retirement Systems

OVERVIEW OF URS PLAN DESIGN

Types of Retirement Plans

- Defined Benefit (DB) Plans
 - The plan defines the benefit payable at retirement
- Defined Contribution (DC) Plans
 - The plan defines the contribution provided to the employee's retirement account
- Hybrid Plans
 - A retirement program that combines elements of both DB and DC plans.

Summary of Benefits – Public Employees

Benefit Feature	Tier I Public Employee	Tier II Hybrid Public Employee
Benefit Multiplier	2.00%	1.50%
Final Average Salary	High 3 Years	High 5 Years
Retirement Eligibility	Age 65 & 4 Svc ; or 30 Svc	Age 65 & 4 Svc; or 35 Svc
Max Annual COLA (Indexed CPI)	4.00%	2.50%
Early Retirement (Reduced)	Age 60 & 20 Svc; Age 62 & 10 Svc; or 25 Svc	Age 60 & 20 Svc; or Age 62 & 10 Svc

Summary of Benefits – Public Safety

Benefit Feature	Tier I Public Safety	Tier II Hybrid Public Safety
Benefit Multiplier	2.50% (first 20 years) 2.00% thereafter	1.50%
Final Average Salary	High 3 Years	High 5 Years
Retirement Eligibility	Age 65 & 4 YOS; Age 60 & 10 YOS; or 20 YOS	Age 65 & 4 YOS; or 25 YOS
Max Annual COLA (Indexed CPI)	4.00%	2.50%
Early Retirement (Reduced)	N/A	Age 60 & 20 YOS; or Age 62 & 10 YOS

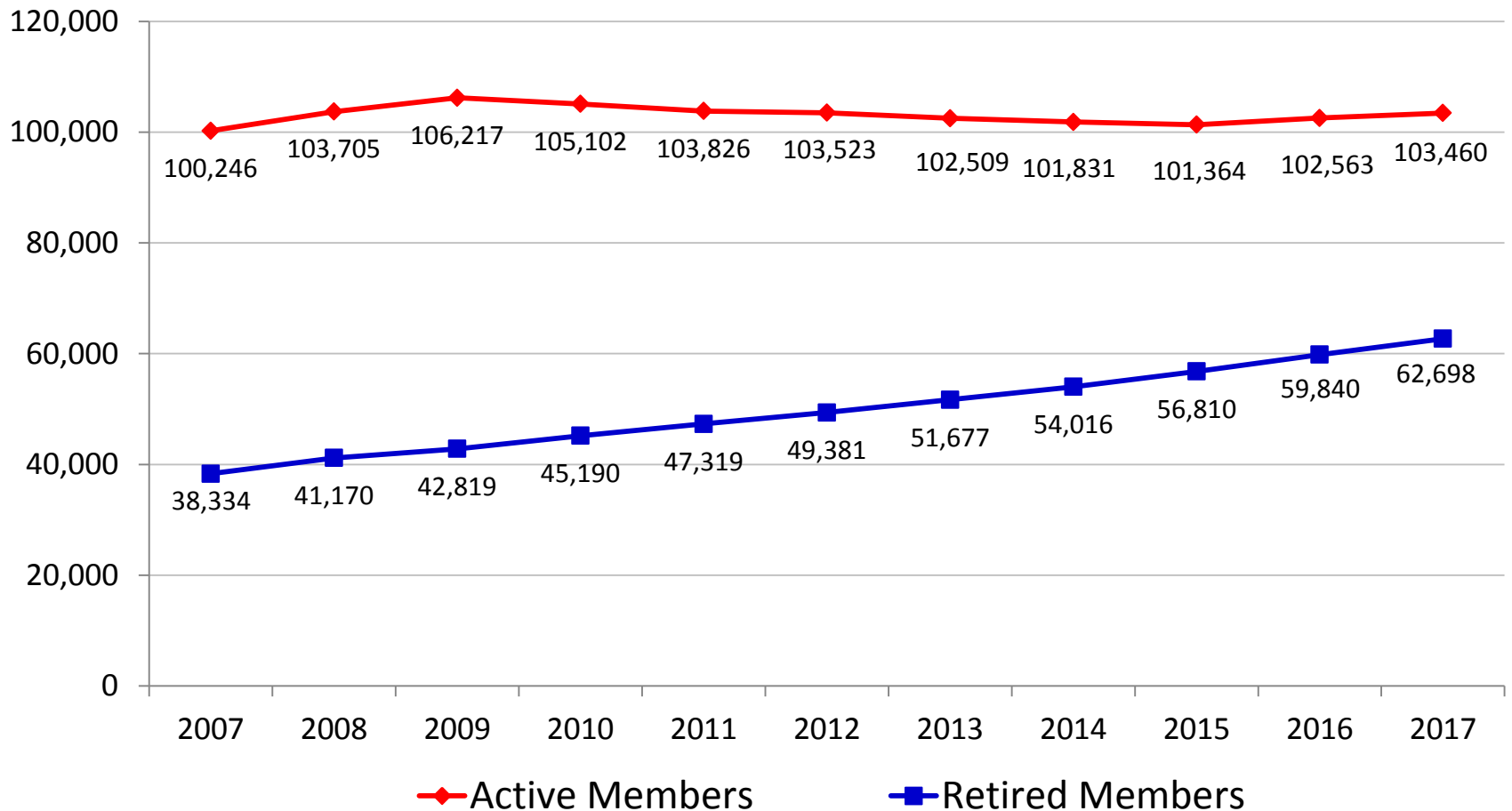
Assessment of Plan Types

Plan Type / Feature	Defined Benefit	Hybrid Benefit	Defined Contribution
Investment Risk/Reward	Employer	Employee	Employee
Longevity and Inflation Risk	Employer	Employee	Employee
Employer Cost Volatility	Can Vary From Year to Year	Stable From Year to Year	Stable From Year to Year
Payment Form	Monthly Annuity	Monthly Annuity /Lump Sum	Lump Sum
Retirement Resource Predictability	Very Predictable	Somewhat Predictable	Unpredictable

The employees share in the investment and longevity risk under the Tier II Hybrid Retirement Plan.

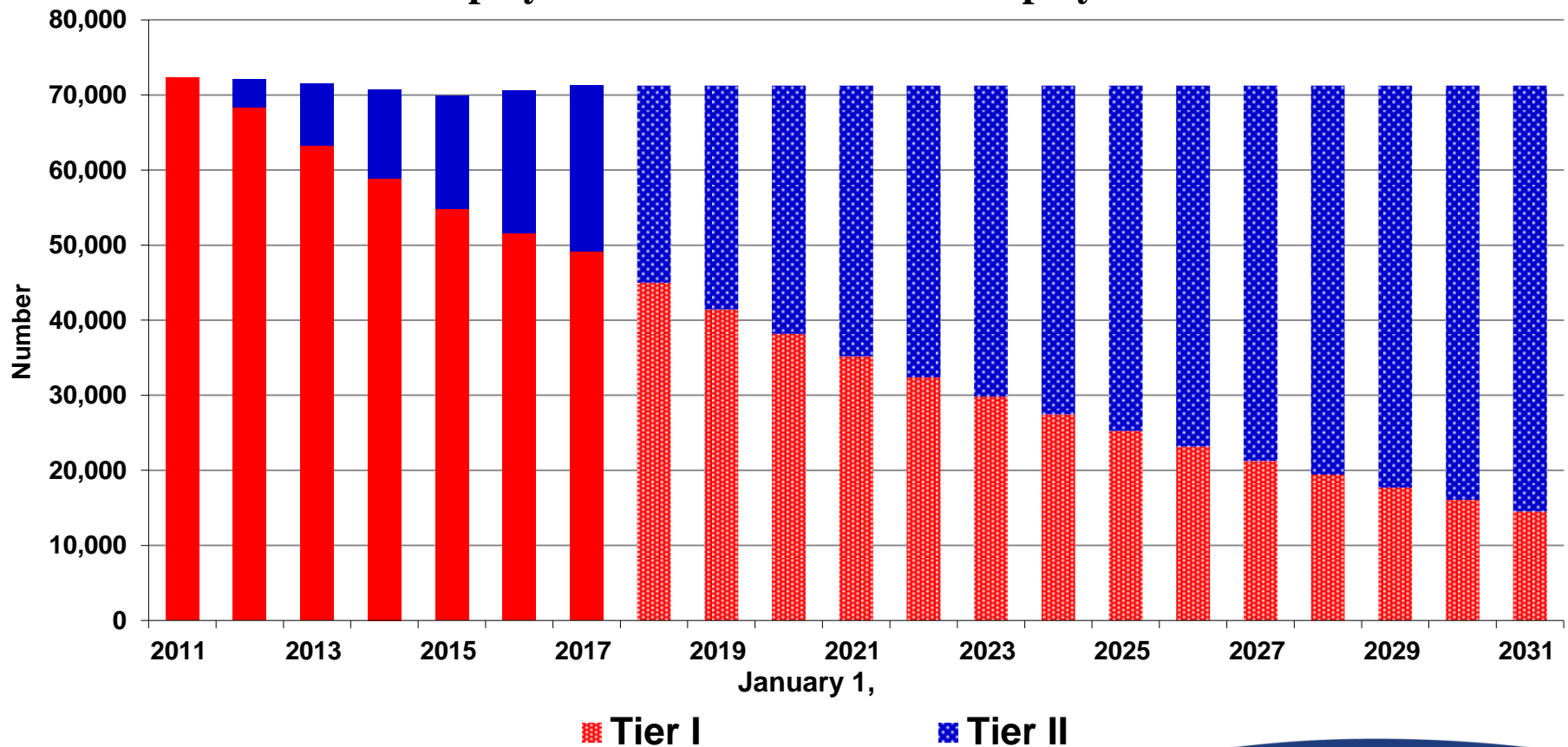
PLAN DEMOGRAPHICS

Active and Retired Members



Projected Tier I / Tier II Membership

**Projected Number of Tier I and Tier II
Employees of State and School Employers**

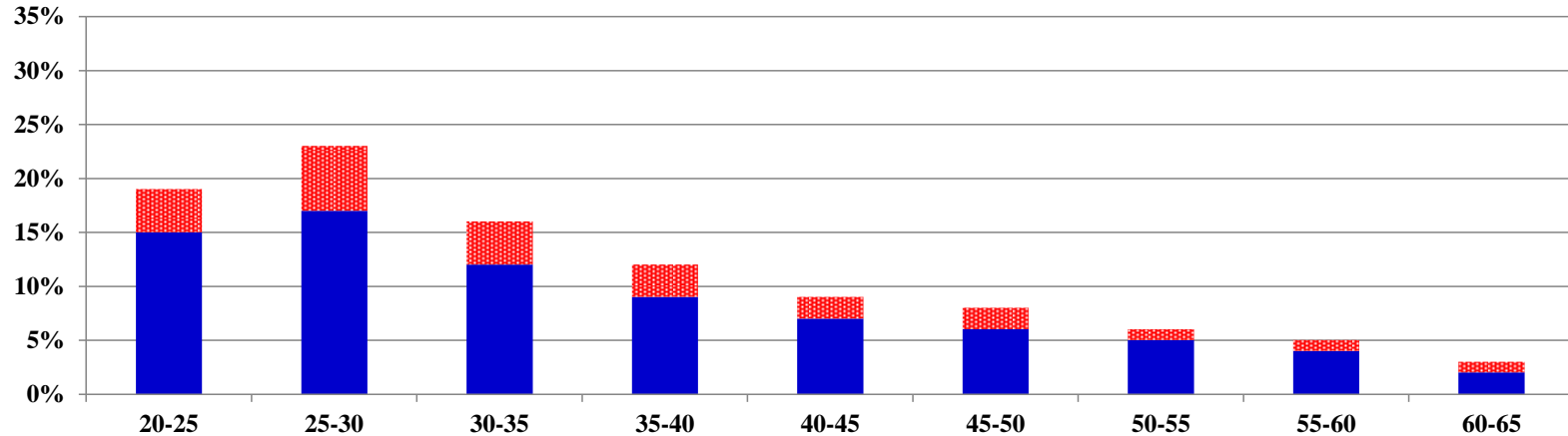


Tier II Election Behavior

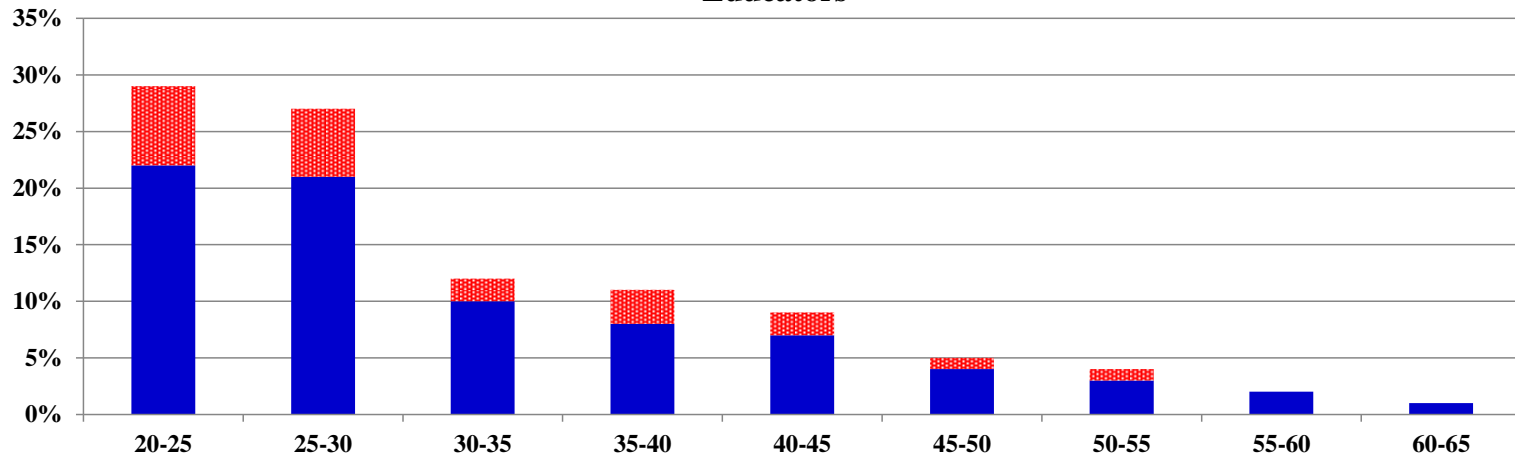
- 80% of Tier II Public Employees participate in the Hybrid Plan
- 85% of Tier II Public Safety and Firefighters participate in the Hybrid Plan
- Election to the Hybrid Plan / Defined Contribution plan did not materially vary by year, age, or gender

Tier II Election Behavior – Public Employees

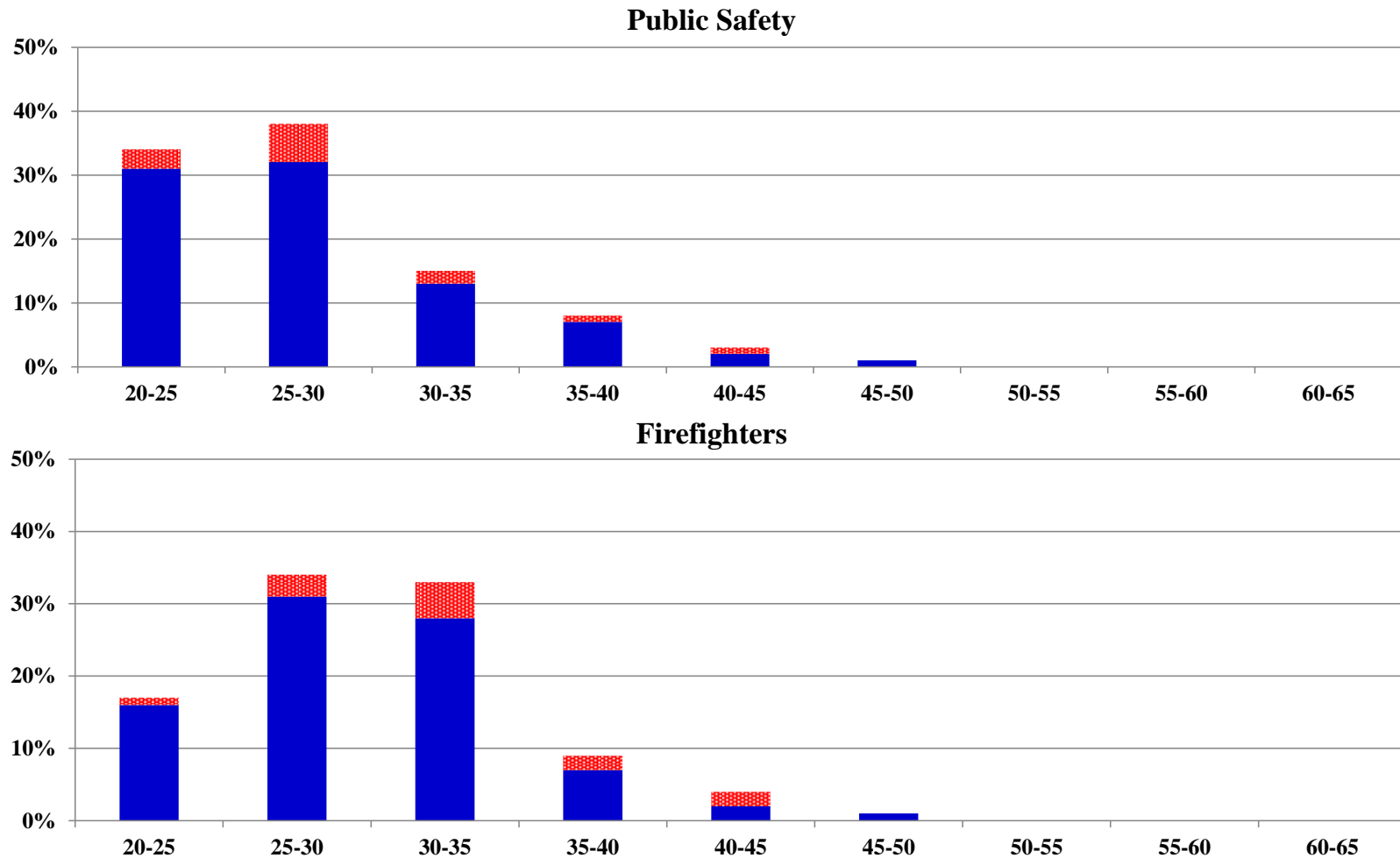
State and Local Government Employees



Educators



Tier II Election Behavior – Public Safety and Firefighters



Membership Profile

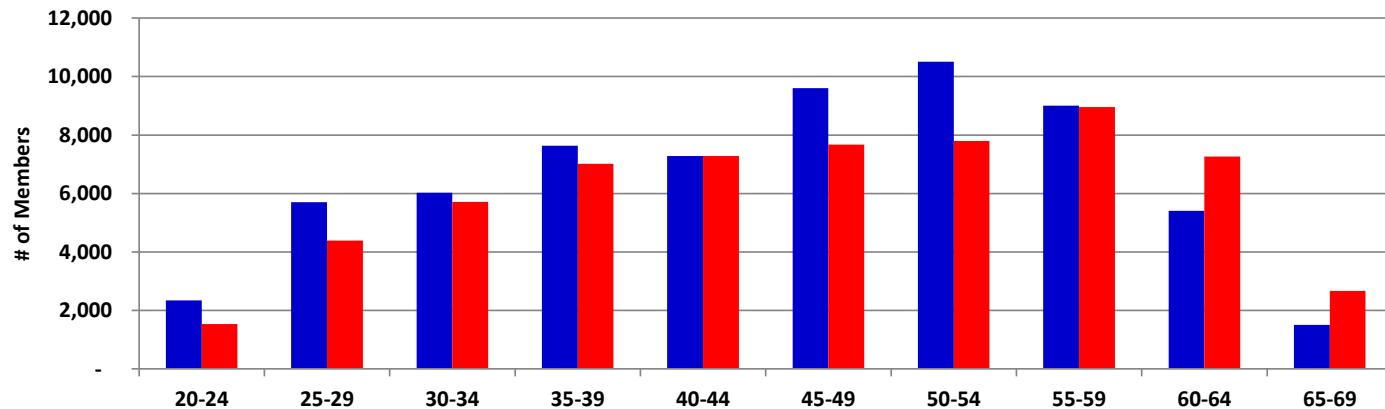
- Compared the profile of active members and retirees in 2017 to the active members in 2007 (ten years before)
- Findings
 - Total number of active members increased for all groups except State employees
 - The average age and average service of active members have not significantly changed
 - Migration of the baby boom generation (i.e. members born between 1946-1964) can be seen in the retiree demographics

Active Member Profile – Summary Statistics

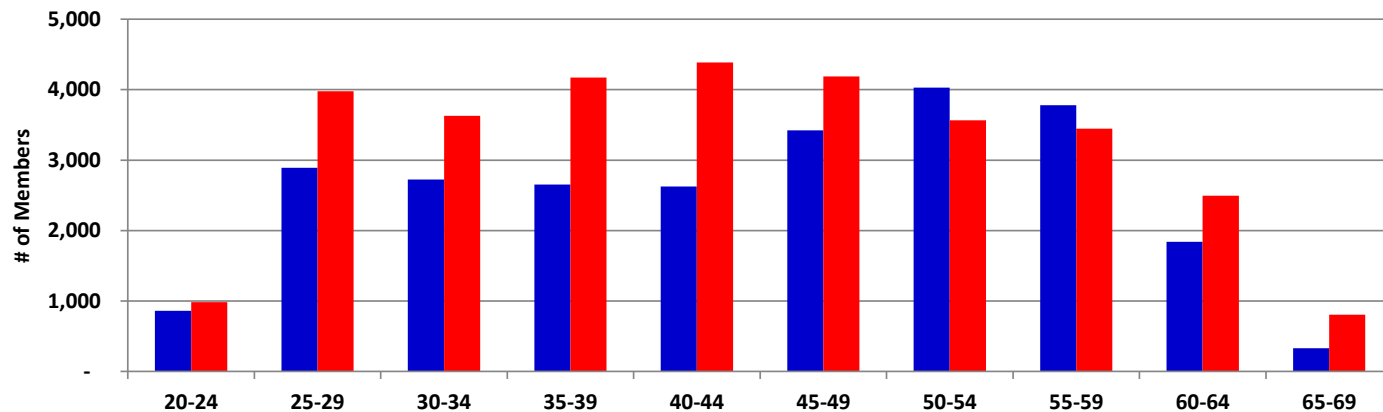
Membership Group	# of Active Members		Average Age		Average Service	
	2007	2017	2007	2017	2007	2017
Educators	25,200	31,600	44.3	43.4	11.9	10.6
State Employees	45,000	39,100	45.6	47.7	10.1	12.2
Local Government	20,100	21,200	44.6	45.5	9.9	11.2
Public Safety	7,400	8,100	38.8	40.1	10.2	11.9
Firefighters	1,700	2,100	39.7	41.3	11.3	12.3

Active Member Demographics – Public Employees

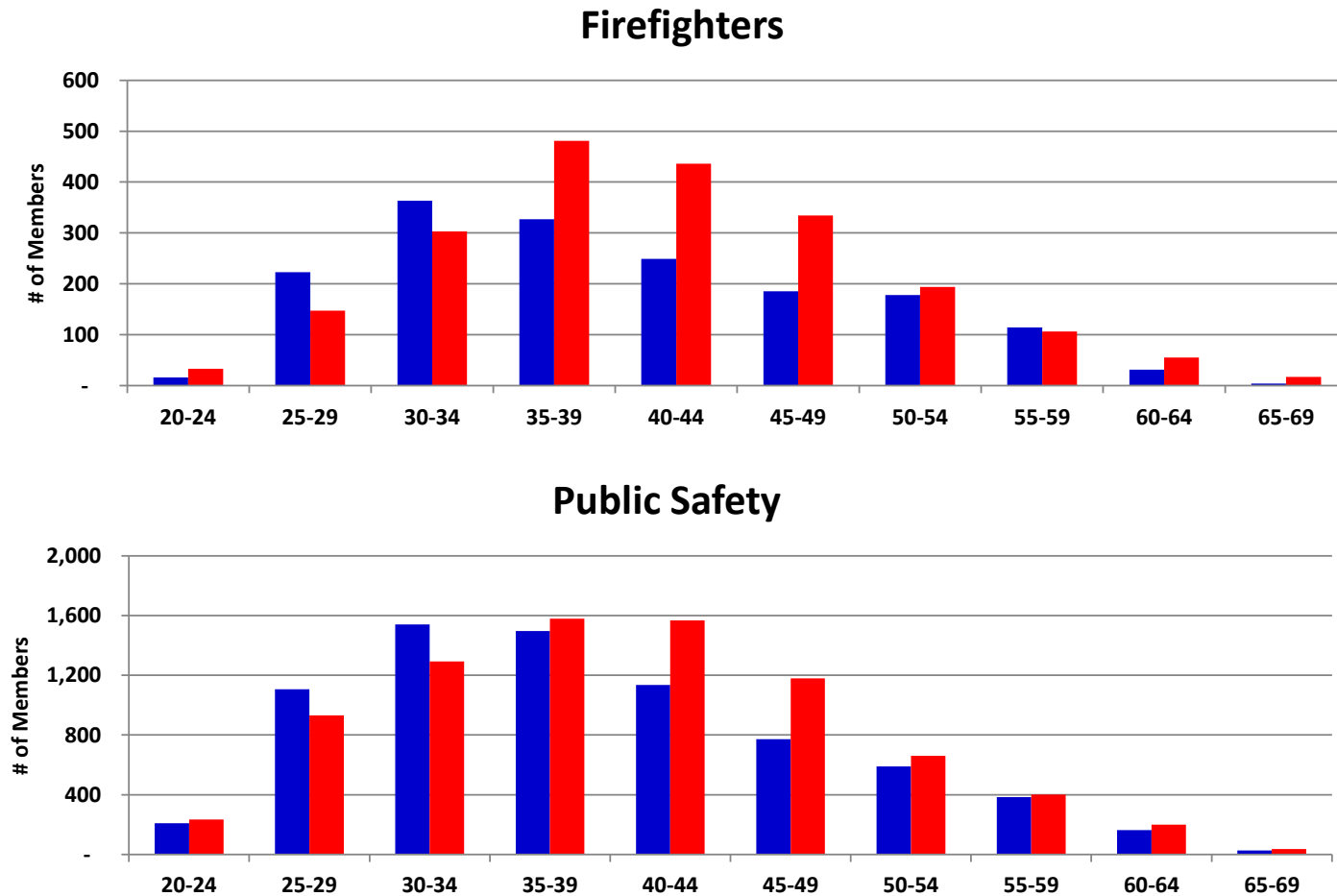
State and Local Government



Educators



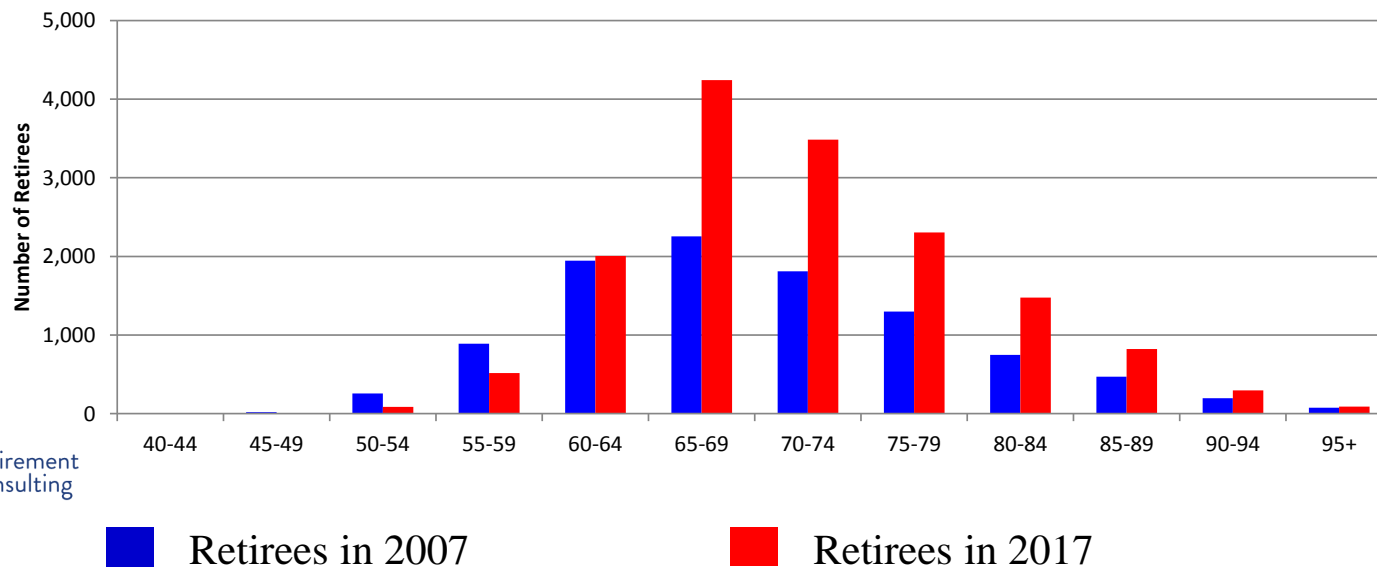
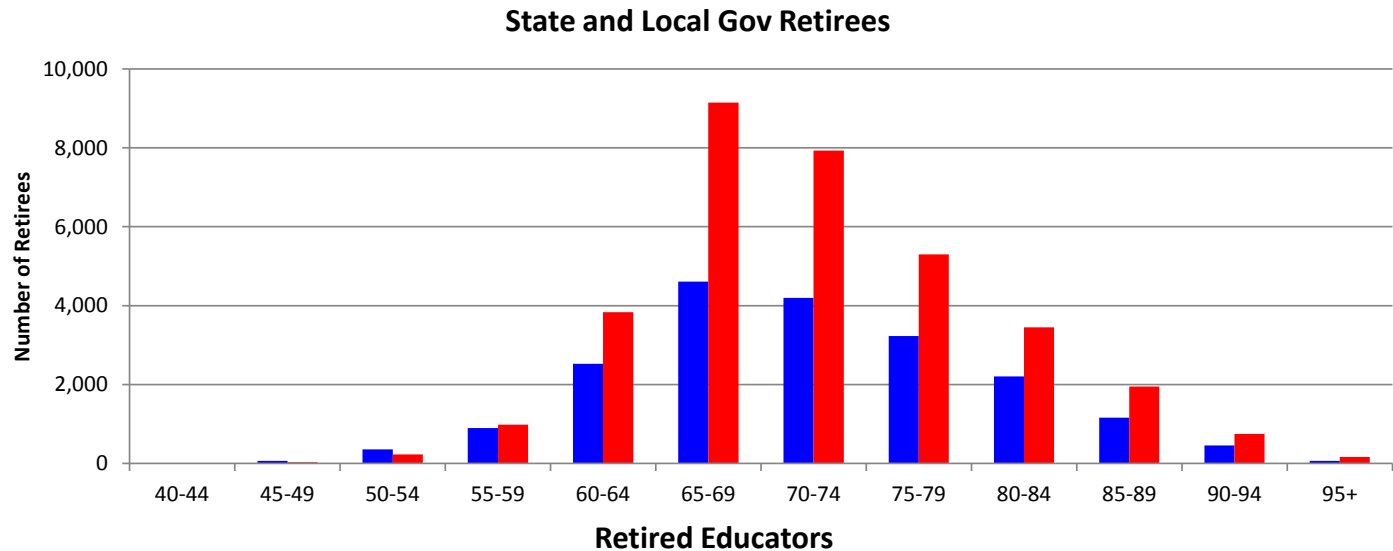
Active Member Demographics – Public Safety and Firefighters



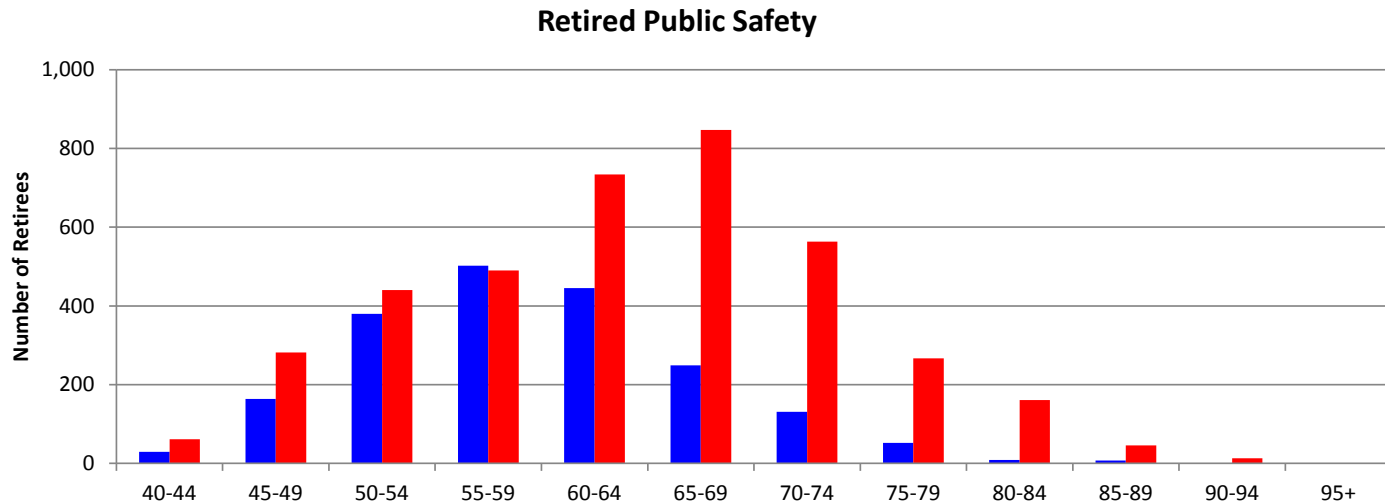
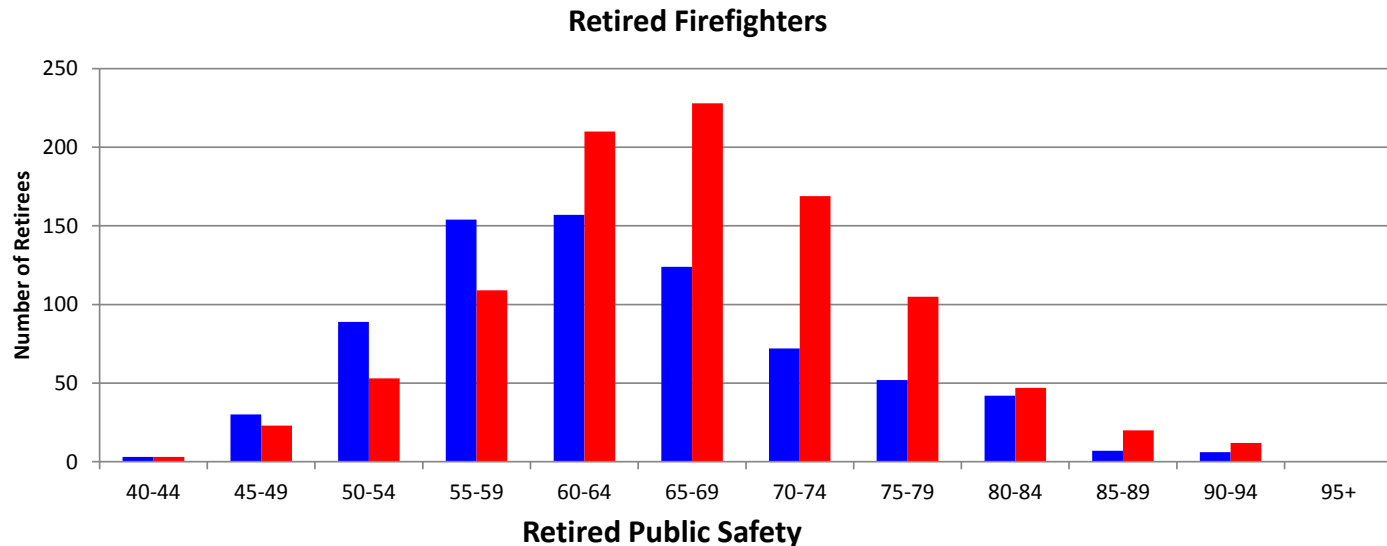
Retiree Member Profile – Summary Statistics

Membership Group	# of Retirees		Average Age	
	2007	2017	2007	2017
State & Local Government	19,700	33,600	72.3	72.6
Educators	10,000	15,300	70.2	72.2
Firefighters	700	1,000	64.0	72.1
Public Safety	2,000	3,900	59.6	64.1

Retiree Member Demographics – Public Employees



Retiree Member Demographics – Public Safety and Firefighters



ACTUARIAL ASSUMPTIONS

Actuarial Valuation Calculations

Historical Known Information

- Age
- Gender
- Current salary
- Service in URS
- Occupation

Assumed / Projected into the future

- Future salary increases
- Retirement age(s)
- Disability/Termination
- Life expectancy
- Investment return

Principal Actuarial Assumptions

- Economic Assumptions

- Price inflation (CPI): 2.50%
- Salary increases (for individuals): 4.50% (varies)
- Investment return: 6.95%

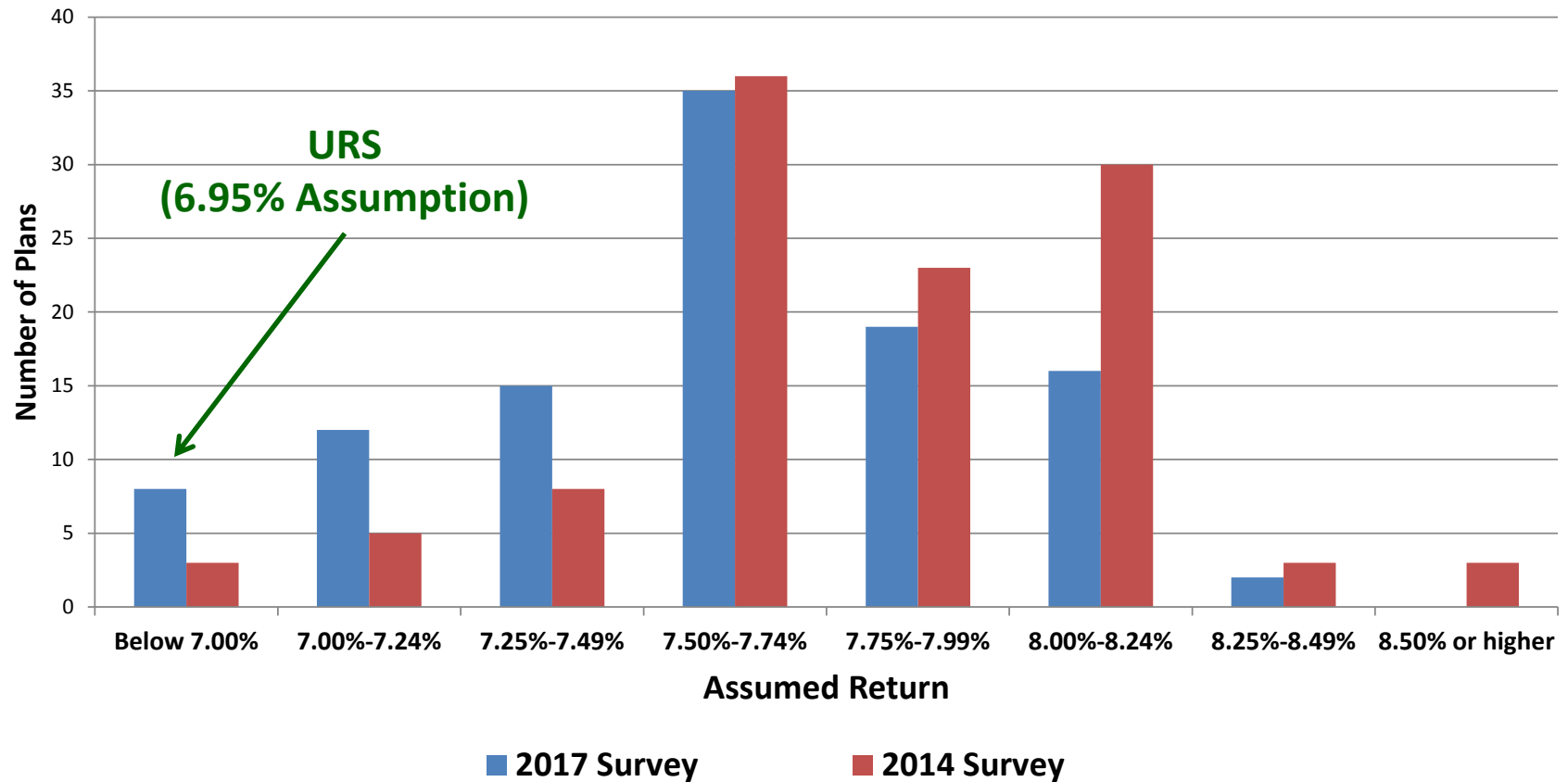
- Demographic Assumptions

- Pre-retirement turnover
- Disability
- Retirement
- Mortality

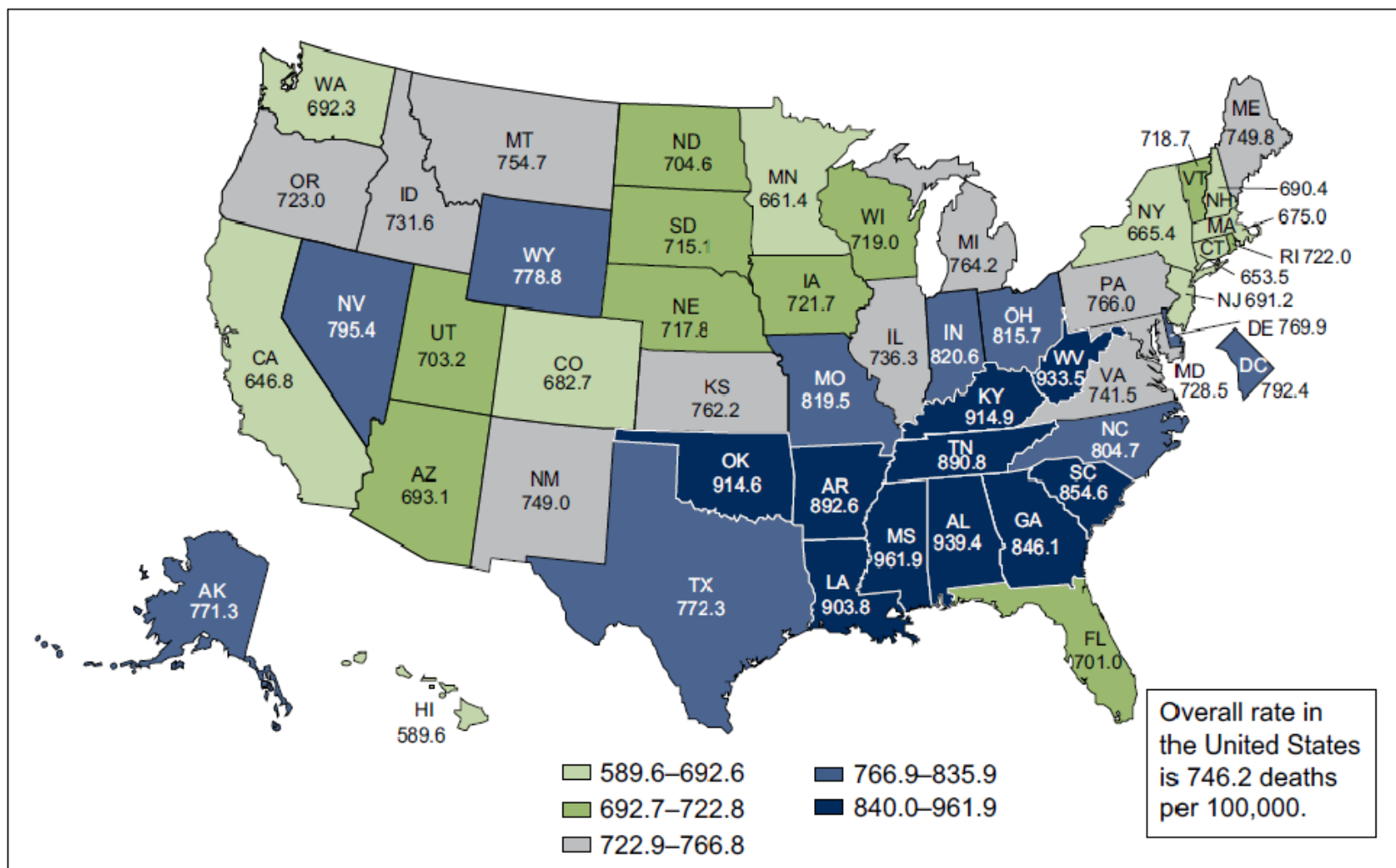
Demographic assumptions vary by gender and employee type (e.g. general employees, teachers, public safety, and firefighters).

Investment Return Assumption

Public Fund Survey - Investment Return Assumption



Mortality Rates by State



Variation of Life Expectancy by State – from Age 65

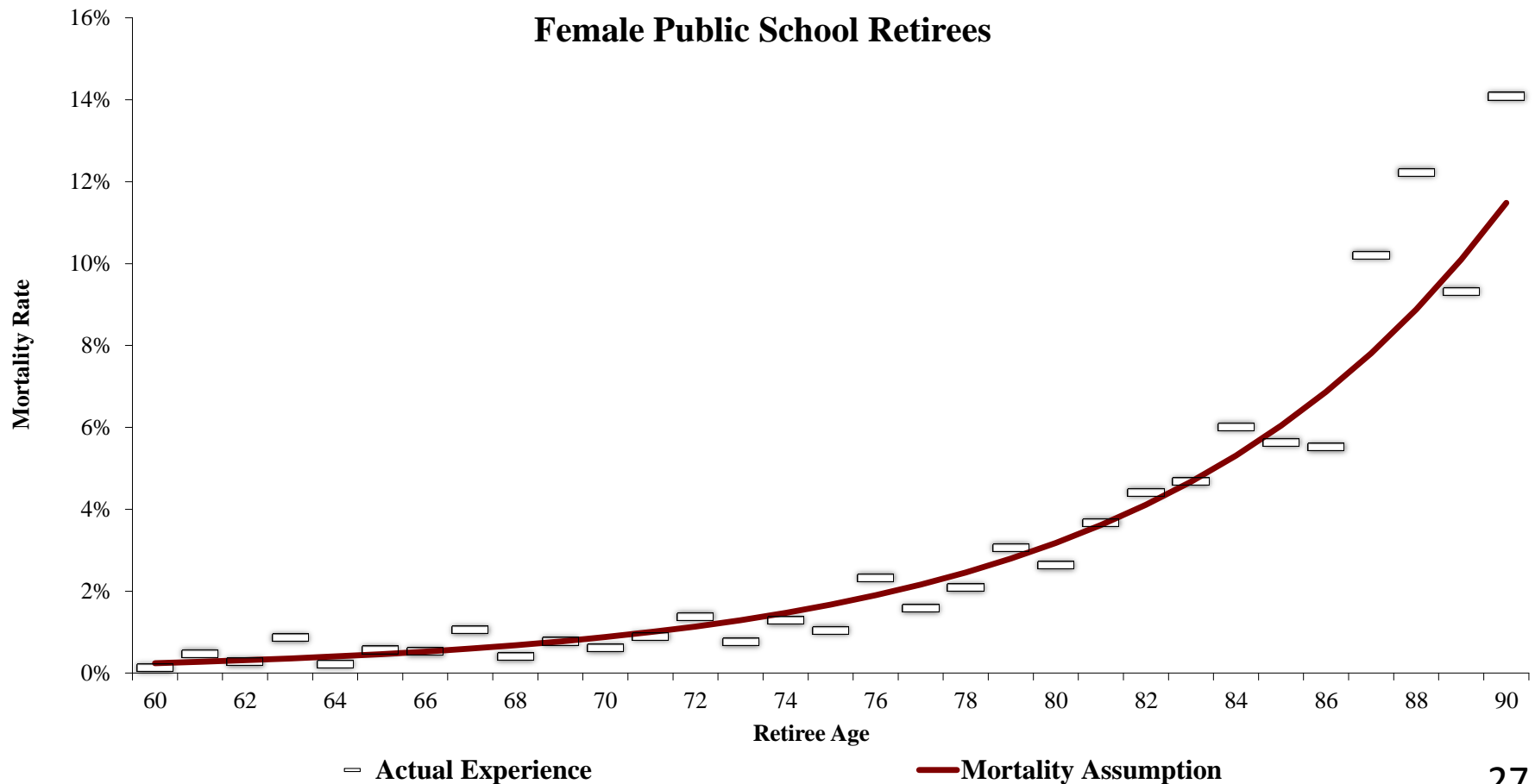
*Utah ranks 9th with an average life expectancy of 19.8 years
(18.9 years for males and 20.7 years for females)*

States with the Longest Life Expectancy		
1	Hawaii	21.3
2	Florida	20.4
3	California	20.3
4	Arizona	20.2
5	Connecticut	20.2
6	Minnesota	20.1
7	New York	20.0
8	North Dakota	19.9
9	Utah	19.8
10	Colorado	19.8

States with the Shortest Life Expectancy		
41	South Carolina	18.5
42	Georgia	18.2
43	Arkansas	18.1
44	Tennessee	18.0
45	Louisiana	17.9
46	Oklahoma	17.7
47	Alabama	17.6
48	Kentucky	17.6
49	Mississippi	17.5
50	West Virginia	17.5

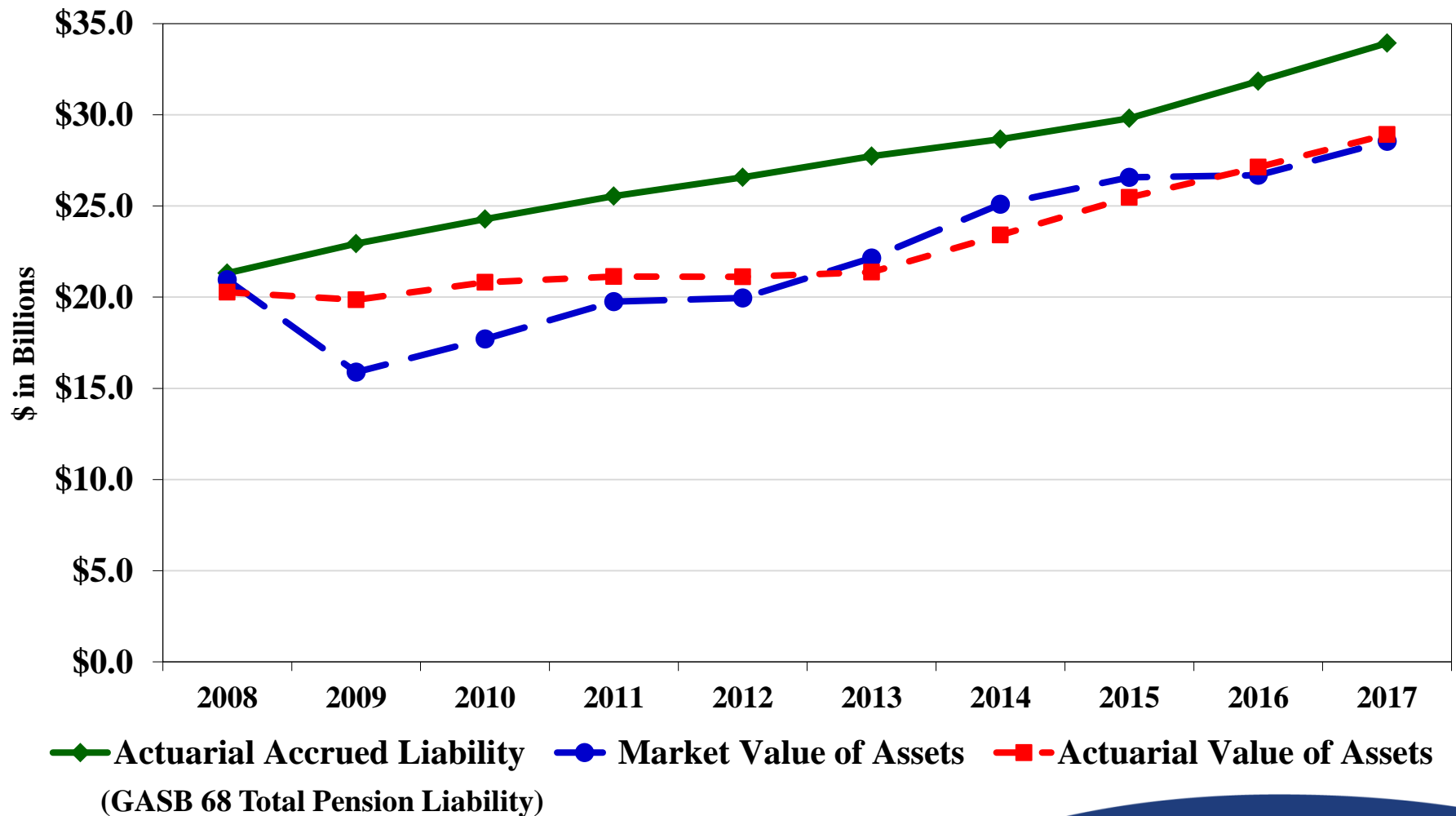
Post-retirement Mortality

- Actuarial Valuation uses a custom mortality assumption created using URS's experience

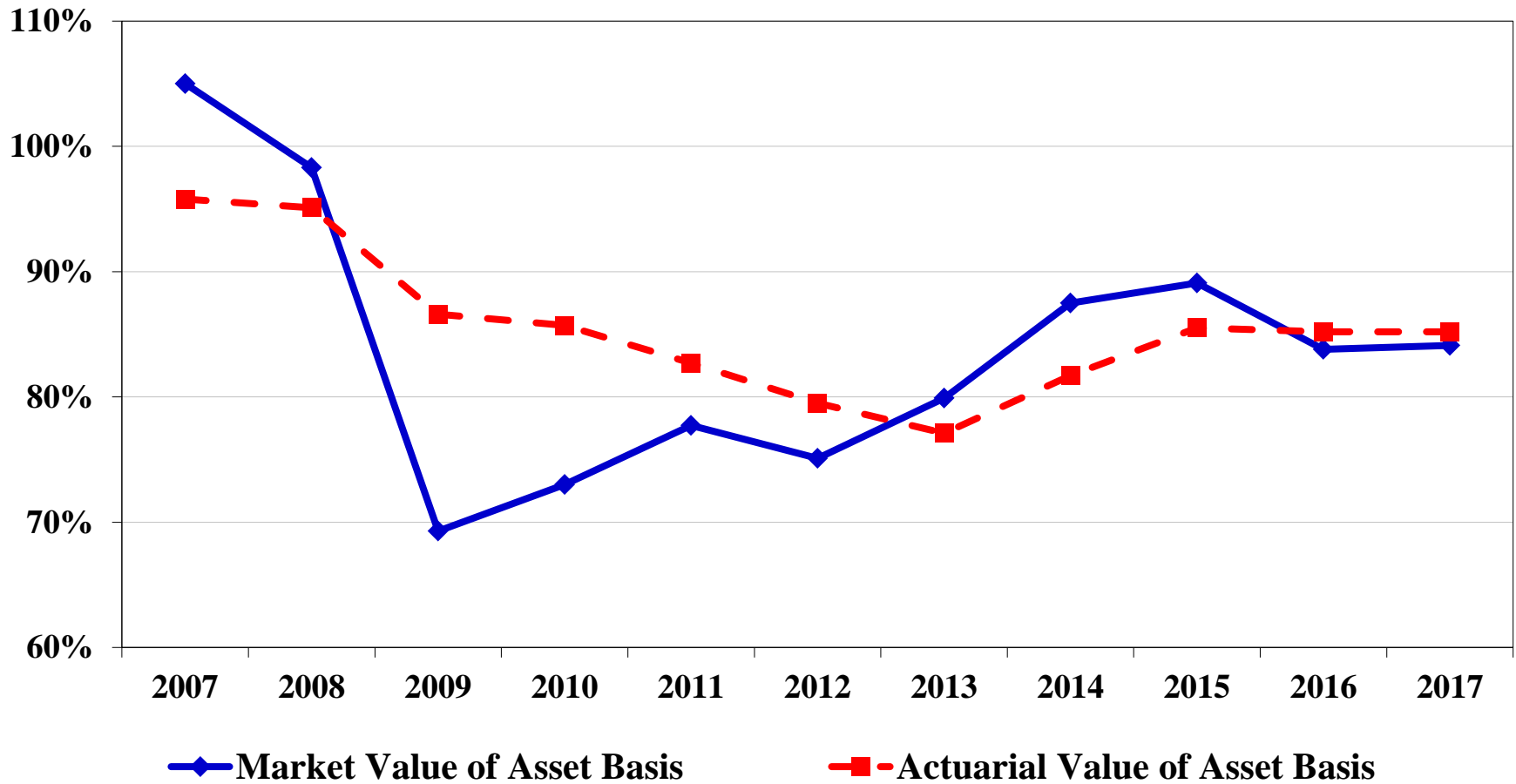


COMPARISON OF FINANCIAL METRICS TO OTHER RETIREMENT SYSTEMS

Plan Assets and Liability

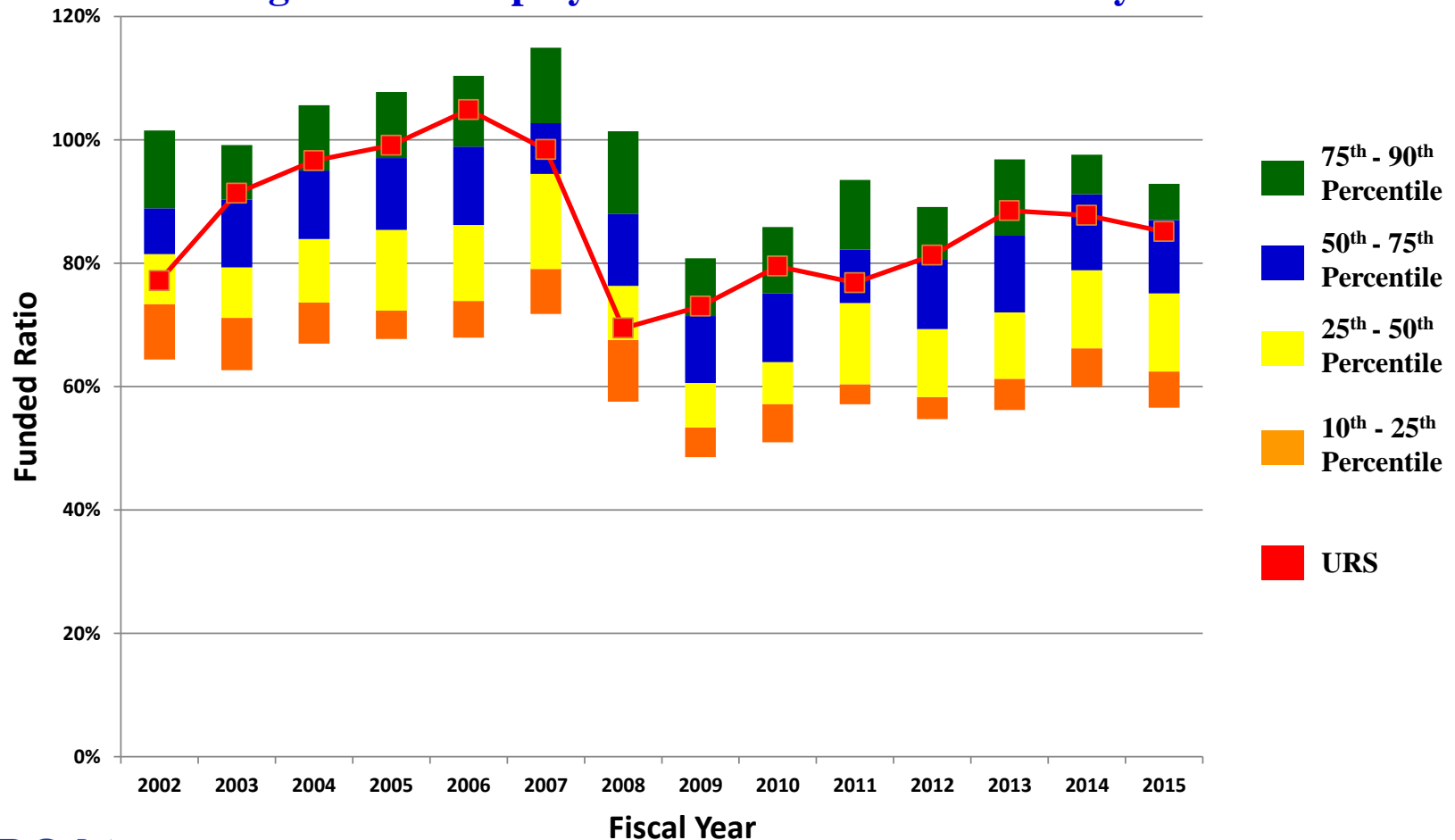


Funded Ratio

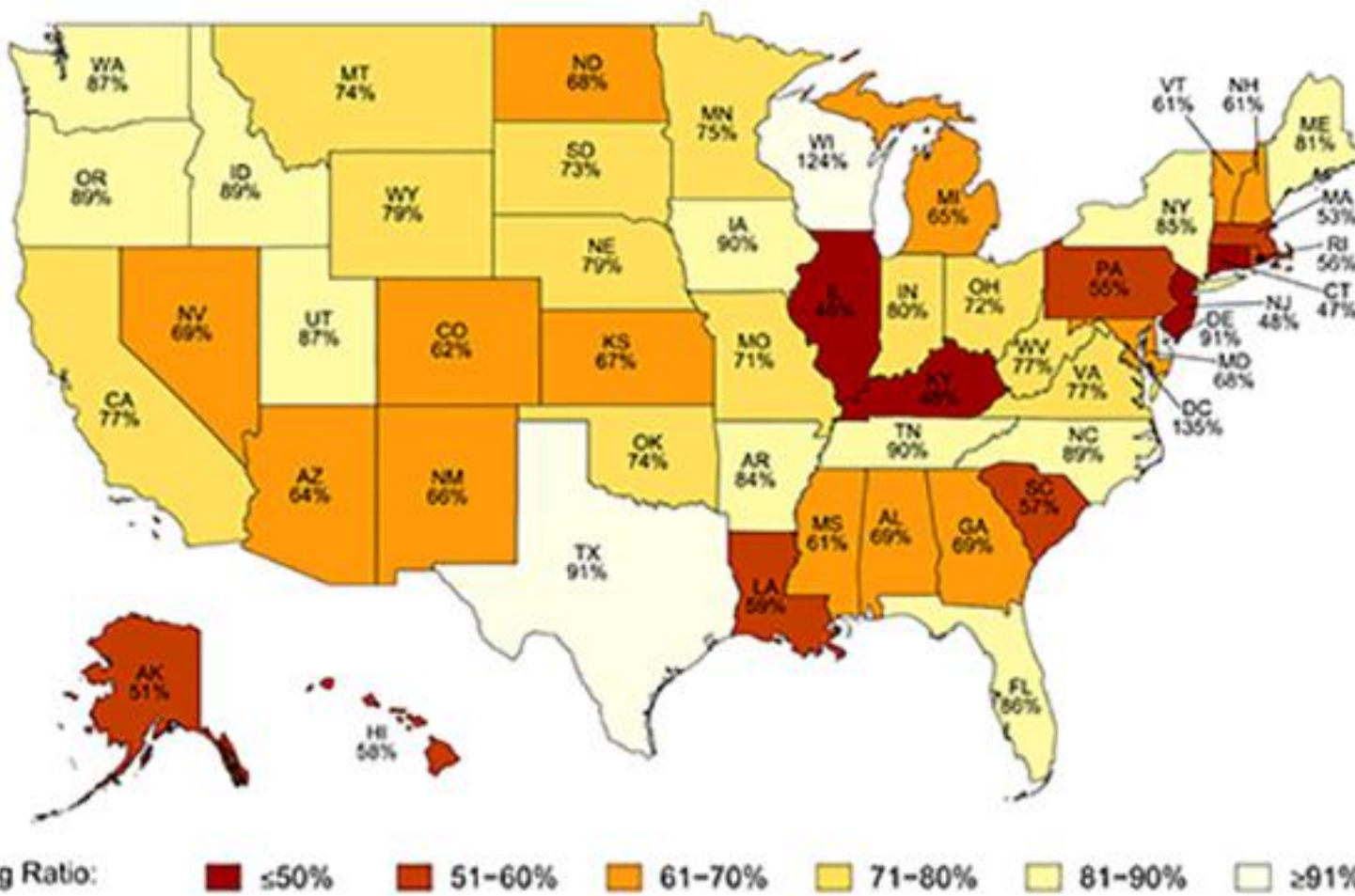


Historical Funded Ratios – Market Value Basis

Large Public Employee and Teacher Retirement Systems



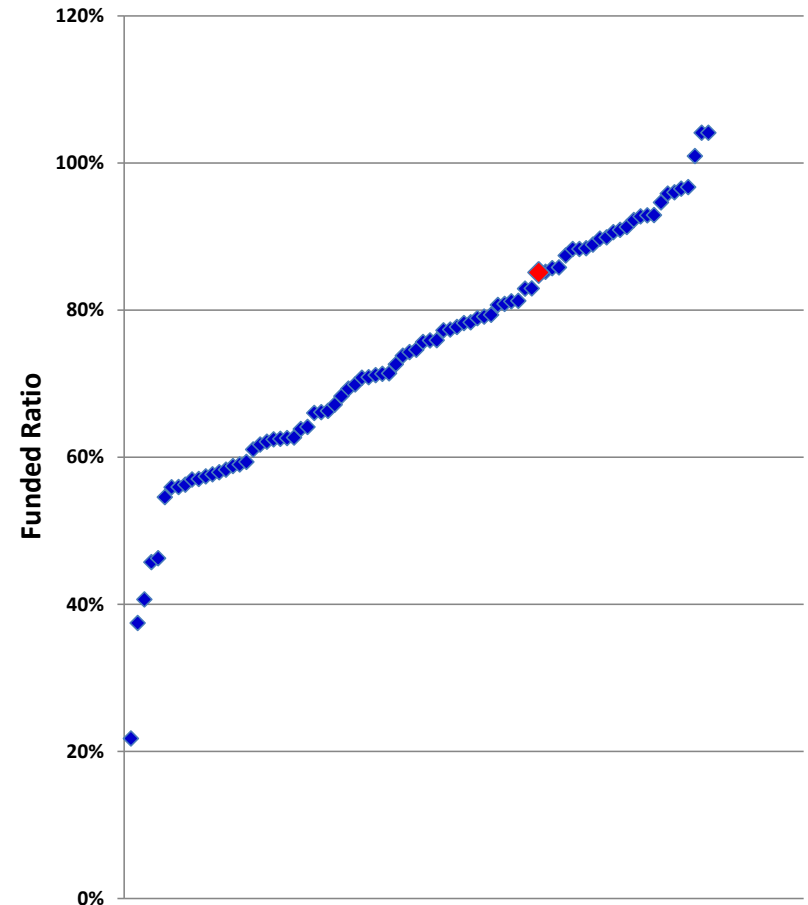
Funded Ratio by State



Benchmarking – Funded Ratio

- ◆ The funded ratio of URS ranks in the 70th percentile of a comparison with other large public employee retirement systems in 2015 (n = 86)

- ▶ URS – 85%
- ▶ 25th percentile – 62%
- ▶ 50th percentile – 75%
- ▶ 75th percentile – 87%

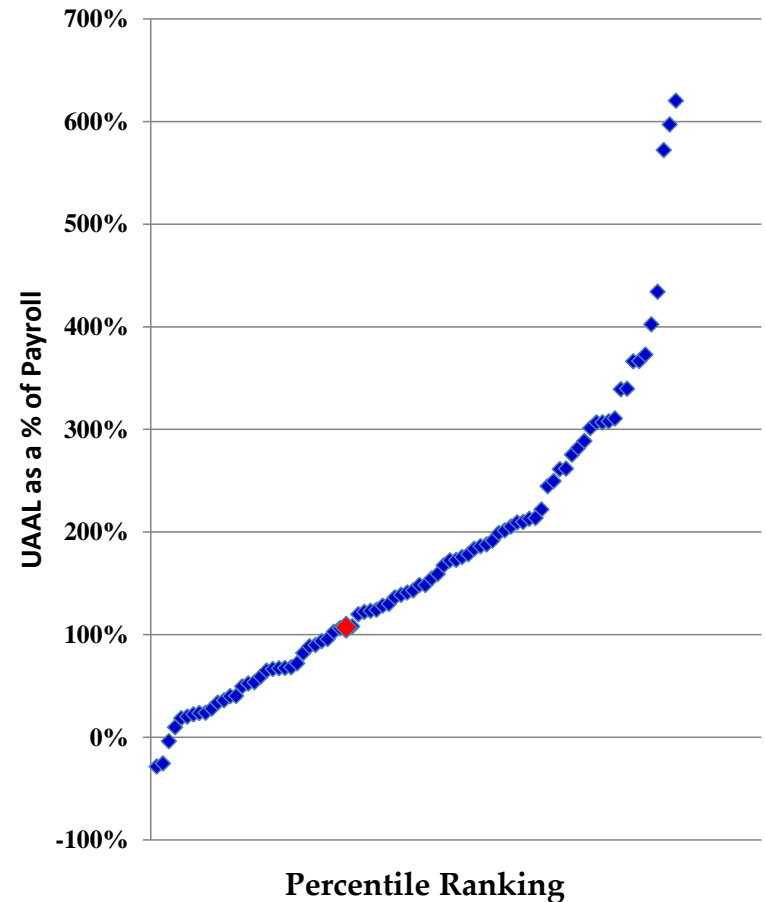


Source: 2015 Public Plan Database, excludes municipal and public safety and firefighter retirement systems.

Benchmarking – Unfunded Liability as a % of Payroll

- ◆ The unfunded actuarial accrued liability as a percent of payroll. URS ranks in the 36th percentile of a comparison with other large public retirement systems in 2015 (n=86)

- ▶ URS – 107%
- ▶ 25th percentile – 67%
- ▶ 50th percentile – 146%
- ▶ 75th percentile – 239%



Source: 2015 Public Plan Database, excludes municipal and public safety and firefighter retirement systems.

Pew Charitable Trusts Report on State Pension Funding

- *The State Pension Funding Gap: 2014*
 - There were 14 States where the contributions made to retirement systems were sufficient to reduce the dollar amount of the unfunded liability

Delaware	Maine	Utah
Idaho	Nebraska	Vermont
Indiana	North Carolina	Wisconsin
Louisiana	South Dakota	West Virginia
New York	Tennessee	

Pew Charitable Trusts Report issued in August 2016

Standard and Poors – Review of US State Pensions

- Review of the States FY 2015 balance sheets

Rank	State	Unfunded Pension Liability per capita
1	Wisconsin	(\$119)
2	South Dakota	(109)
3	New York	74
4	Florida	113
5	Nebraska	121
11	Iowa	\$321
12	Washington	372
13	Utah	402
14	North Dakota	481
15	Oklahoma	483
46	Kentucky	\$7,046
47	Alaska	7,405
48	Connecticut	7,660
49	Illinois	9,078
50	New Jersey	10,648

Rank	State	Debt, Pension, and OPEB per Capita
1	Nebraska	\$130
2	Idaho	402
3	South Dakota	411
4	Wyoming	642
5	Iowa	677
8	Oklahoma	\$1,758
9	Arizona	1,793
10	Utah	1,805
11	Arkansas	2,017
12	Nevada	2,104
46	Illinois	\$14,320
47	Hawaii	14,806
48	Alaska	17,887
49	Connecticut	19,484
50	New Jersey	24,065

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